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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,035	10/13/2004	Kenichi Nakamura	019519-440	6280
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EXAMINER JACKSON, MONIQUE R				
ART UNIT 1794		PAPER NUMBER		
NOTIFICATION DATE 04/04/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

### Office Action Summary

**Application No.**

10/511,035

**Applicant(s)**

NAKAMURA ET AL.

**Examiner**

Monique R. Jackson

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 6-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 3/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/19/08 has been entered.
2. New Claims 33-41 have been added. Claims 1, 3, 4 and 6-41 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 102/103***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yadav et al (USPN 6,719,821.) Yadav et al teach engineered nanopowders having a particle size of less than 250 nm, preferably less than 100 nm (Abstract; Col. 3, lines 54-60), including cobalt doped titania, wherein the powders have numerous industrial applications including optical films that prepared from the nanoscale powders can offer more consistent refractive index and optical performance (Col. 13, lines 60-

Col. 14, line 14; Table 2.) Yadav et al teach that an exemplary application for the use of cobalt doped titania as well as other doped oxides is in coatings, and that a coating or film may be prepared by dispersing the fine nanopowder and then applying various known methods such as spin coating, dip coating, and spraying, wherein the nanopowders may be thermally treated or reacted to enhance its optical for other properties, wherein the Examiner takes the position that the coating and film taught by Yadav et al comprising the cobalt doped titania fine nanopowders would inherently have the claimed refractive index (Col. 10, lines 23-33.) Alternatively, the Examiner takes the position that one skilled in the art at the time of the invention would have been motivated to determine the optimum content of cobalt to incorporate into the high refractive titania to produce the desired high refractive index for a particular end use within the claimed range.

5. Claims 3, 4, 6-15, and 17-41 are rejected under 35 U.S.C. 103(a) as obvious over Yadav et al in view of the admitted prior art. The teachings of Yadav et al are discussed above. Though Yadav et al teach that the fine nanopowders, having a particle size of less than 250 nm, preferably less than 100nm, are suitable in optical and coating applications, such as cobalt doped titania, wherein the nanopowders can provide more consistent refractive index and optical performance, Yadav et al do not specifically teach the claimed film or optical structures. However, the claimed optical structures, including an image display device, anti-reflection film, and a polarizing plate as claimed and comprising a transparent support, are conventional optical structures utilized in the art, as discussed in the admitted prior art, particularly with respect to titania or titanium dioxide particles, which inherently have a high refractive index, and hence would have been obvious optical applications to one having ordinary skill in the art at the time of

the invention for the coatings and cobalt doped titania nanopowders taught by Yadav et al, wherein one skilled in the art would have been motivated to apply the coating taught by Yadav et al to a transparent support at a desired thickness with the claimed range being typical for a high refractive coating. Further, one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum content of cobalt to incorporate into the high refractive titania to produce the desired refractive index for a particular end use. Further, Yadav et al teach that the nanopowders may be produced in composite, coated, layered, and surface functionalized form, and given that it is well established in the art that mixed oxides are produced as core-shell particles, it would have been obvious to one skilled in the art that the doped cobalt may be present on the surface of the titanium dioxide, as well as the interior. With respect to the specific surface area, Yadav et al teach examples wherein the resulting nanopowders have a BET surface area within the claimed range and though Yadav et al do not specifically teach the surface area of the cobalt doped titania nanopowder, it would have been obvious to one skilled in the art that the cobalt doped titania nanopowders produced according to the method taught by Yadav et al would exhibit similar surface areas within the claimed range. Lastly, with respect to the actual contents of the coating, it would have been obvious to one skilled in the art at the time of the invention to incorporate an organic binder, organosilane and dispersant in the coating with the cobalt doped titania nanopowder taught by Yadav et al, wherein the claimed compounds are obvious materials utilized conventionally in the art and would have been obvious to one skilled in the art at the time of the invention.

***Response to Arguments***

6. Applicant's arguments filed 3/18/08 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/  
Primary Examiner, Art Unit 1794  
March 29, 2008